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MEDICAL UNIVERSITY
OF
SOUTH CAROLINA

Annual Report
1981-1982



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OF
SOUTH CAROLINA

Annual Report
1981-1982



The Medical University of South Carolina does not discriminate on the basis of race, color, creed, national origin, ancestry, sex, age, veteran status, or handicap, in the recruitment and admission of students, employment of faculty and staff, and the operation of other educational activities and programs, as specified by federal and state laws and regulations.

MEDICAL UNIVERSITY

OF

SOUTH CAROLINA

Annual Report

1981-1982

Honorable Ladies and Gentlemen:

The health status of South Carolinians has never been better, and the capability and capacity of the health care and health education enterprises have never been greater. Morbidity and mortality statistics register downward trends and the availability of high quality health and medical care is increasing rapidly. Over the past 10 years physician supply has grown to a point at which production must now be re-evaluated to prevent the possibility of oversupply which some have forecast for 1990. And, as the problems of availability and access to health care have moderated, public concern has turned to the problems of a depressed economy, the high cost of health care and the maintenance of good health as an alternative to treatment for illness. Fortunately, the surfacing of such concerns comes at a time when the Medical University has reached the level of maturity needed to provide the leadership necessary to seek new solutions.

We are grateful for your help and support. The vitality of education is dependent upon the interest and support of all South Carolinians and, in turn, this vitality will serve South Carolina through healthy citizens, a healthy economy and an improving quality of life.

W. MARCUS NEWBERRY, JR., M.D.
Interim President

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MEDICAL UNIVERSITY OF SOUTH CAROLINA

The Medical University is the State's only free-standing academic health center providing a comprehensive range of programs in the biomedical sciences.

Founded in 1824 as the oldest medical school in the South, its College of Medicine pioneered in the clinical teaching of students in a hospital specifically provided for this purpose and members of its faculty wrote some of the first American medical textbooks.

The University was a proprietary institution through its early history, but with the Flexner Report and the much heavier financial demands it placed upon the school, the State was prevailed upon to assume ownership in 1913. University status was achieved in 1969.

The institution includes six colleges, the division of continuing education and a major teaching hospital. In addition to the College of Medicine, there are the College of Pharmacy, in continuous service since 1894; College of Graduate Studies, which issued its first graduate degree in 1951; College of Nursing, celebrating its centennial in 1983, which instituted its four-year baccalaureate program in 1965; College of Allied Health Sciences, established in 1966, which offers 26 training options; and College of Dental Medicine, which graduated its first class in 1971. A Dean of Continuing Education was appointed in 1979.

Today the scope and geographical extent of its services are impressive. Through consortial and regional affiliations, cooperation takes place with other colleges and agencies, and more than 50 hospitals around the state are able to participate fully or in part in numerous programs.

The University's honor roll of distinguished contributors to medicine includes Sims (founder of American gynecology), Thomas (surgical innovations), Strobel (epidemiology), Geddings (pathological anatomy), Wagner (pathological and surgical anatomy), Parker (neurosurgery), Porcher (germ theory), Chazal (epidemiology), Banov (community health), Lynch (asbestosis), Smithy (heart surgery), and Waring (medical history).

COLLEGE OF MEDICINE

The academic year 1981-82 may be described as one of adjustments to a lowering of the level of State support historically enjoyed by the College of Medicine. The change has been brought about by the State's declining economic circumstances and the public's rising concern for health care costs.

The year began with a 7 percent State budget reduction and then endured a second cut of 2.19 percent in December. The second cut was followed by a State mandated "freeze" on employment and spending for

equipment and supplies. These conditions produced the College's first experience with the reduction-in-force processes, including lay-offs, associated grievances, and "bumping." As a result of the reduced budget, faculty and staff were required to accommodate to changes in various support areas, e.g., "in-house" legal services, and audiovisual support.

The year was also one of adjustment to new and more stringent spending and accounting controls that were required by a series of unfavorable audit reports. Accountability associated with travel was increased, and property control procedures were improved.

With the foregoing changes came the recognition that MUSC had indeed entered into a new economic era, and that many activities of the past must be discontinued or modified. The importance of alternate sources of revenue to compensate for lost State monies was recognized as was the need to develop the organization for obtaining such funds. It also became obvious that the traditional "free" delivery of indigent care must be brought under control. The process for effecting this change included the relocation of "County clinics" to County property, i.e., McClennan-Banks Hospital. Pursuant to this move, a great deal of effort was devoted to negotiating change including the relocation of the Alcohol and Substance Abuse Treatment Center housed in the McClennan-Banks facility.

The 1981-82 year witnessed the continuing search for leadership in four clinical areas with chairmanship appointments consummated in Pediatrics, Medicine, and Physical Medicine and Rehabilitation, and a "commitment-to-come" in Orthopedic Surgery (given the ability to provide the resources required).

The development of the USC School of Medicine continued to have impact upon MUSC. The central area of concern focused upon negotiating a contract through which USC students could enjoy the benefits of the electives offered by the Consortium of Teaching Hospitals. This assumed central importance as the Consortium membership insisted that USC establish educational agreements within the framework of the Consortium. The memberships took this position because they perceived an outside agreement as duplicative and inefficient.

A new initiative worth mentioning is the Physician Retraining Program which was begun as a program for returning otherwise handicapped physicians to community service. The program has experienced a modest beginning, but its potential for service is significant.

Financial Affairs

In FY 1981-82 College fiscal affairs experienced a modest growth overall of approximately 2.34 million dollars over the previous year. It is notable, however, that there actually was a small drop in State support with the increase coming from private practice earnings, grants and contracts.

Faculty

The College of Medicine, in compliance with the State's "no growth" policy, experienced a net full-time faculty increase of five. Part-time faculty increased to 40 over 1980-81. Faculty appointments have varied in number as the various departments have succeeded in filling vacancies according to their ordered plans.

Student Body

The College of Medicine has admitted 165 students each year since 1971. In 1981, of the 388 applicants from South Carolina, 161 were accepted. There were five Black admissions in 1980 and five in 1981.

In 1982, 239 students completed programs of graduate medical education (residencies) at MUSC and the Statewide Consortium of Teaching Hospitals. Pursuant to this it is noteworthy that in recent years there has been a dramatic increase in the number of students graduating from U.S. medical schools. This increase has raised the level of competition for positions in quality programs of residency training. As a result of significant State support, graduate medical education in South Carolina has been raised to a level of excellence which enables South Carolina to compete for the best students from the State and the Nation. This is, indeed, an enviable position, but it also means that not all South Carolina graduates (MUSC and USC) will find residency training positions in South Carolina and must go out of state. This situation, of course, raises a number of questions, not the least of which is the possibility of an overproduction of undergraduate medical students.

Curriculum

The curriculum of the College of Medicine is under continued study and revision. The major changes of 1981-82 include: (1) the faculty review and approval of "sweeping" changes to the curriculum which will be implemented in the next two academic years; including, for example, incorporation of smaller courses into larger courses, reduction of class hours, elimination of duplication where not validated as reinforcement, and development of small group teaching, (2) changes to improve sequencing of courses (e.g., Embryology closer to Gross Anatomy, re-scheduling of Neuroanatomy and Neurophysiology), (3) the firm establishment of a comprehensive Introduction to Clinical Medicine Course, and (4) a workshop for faculty to instruct them on testing and grading methods.

COLLEGE OF DENTAL MEDICINE

The College of Dental Medicine carried out its mission operating at a very acceptable level in a time of significant budget reductions. The loss of funds caused one postgraduate program to be closed and two others to be severely curtailed. The Departments of Oral Medicine and Oral Pathology were combined into the Department of Oral Diagnosis and Oral Pathology under the chairmanship of Dr. John Jarrett. Continued static or reduced allocations will lead to serious problems in various clinics, affecting high level patient care.

The College received more national student recognition than in any one year previously. A senior dental student was elected president of the American Association of Dental Students and another student was named Editor of its Journal. Two other students also received national recognition.

Student clinic day was thought by many to be the best ever held. Gen. William Lefler, U.S. Army Dental Corps, and Dr. Carroll Player, president of the South Carolina Dental Association, were guest speakers.

Charleston was the site of the annual meeting of Southern Deans and Dental Examiners in January, 1982.

The faculty stabilized fairly well and the amount of research and publications was adequate in relation to the relatively heavy teaching load the clinical faculty bears. Dr. Tariq Javed became a diplomate of the American Board of Periodontics and Dr. Michael Myers became a diplomate of the American Board of Prosthodontics.

The faculty gave numerous lectures throughout South Carolina to dental groups; also 19 organized continuing education programs were offered at five locations in South Carolina. The Department of Oral Pathology provided needed course instruction in that area to dental hygiene students at Florence-Darlington Technical College. This department has become deeply involved with law enforcement agencies in cases of child abuse and other law violations.

The only program to have a site visit was graduate periodontics and it received full approval of the American Dental Association Commission on Accreditation.

Nine students were graduated in December and forty in May. While the number of applicants to dental school dropped nationally, this College's number of applicants increased by 8 percent. Further, its extramural program continues to be considered one of the best in the country. Through the Ladson Coastal Center, students are gaining excellent experience in the proper dental care of the handicapped. The curriculum, meanwhile, is constantly being reviewed to allow for better integration, coordination, and consolidation of material and updating of techniques.

Renovations were completed on one classroom, making it much more suitable for today's educational requirements, and renovation has begun on the patient chart room which will lead to improved control of patient files, as the requests for dental treatment continue to grow.

In looking ahead, one is compelled to call attention to the fact that outstanding faculty and staff are being lost largely because of salary variances. If raises are constantly put off, withheld, or at best, pegged at extremely low percentages, then the College of Dental Medicine will have extreme difficulty in carrying out its mission at the level which the people of South Carolina deserve.

COLLEGE OF GRADUATE STUDIES

TABLE I

Student Application Data

<i>Students</i>	<i>1981</i>	<i>1982</i>
Applying	169	145
Accepted	31	46
Admitted	26	26
Graduated		
M.S.	5	6
Ph.D.	10	18

In keeping with the national trend, the number of applicants for 1982 decreased from the previous year. To reverse the decline, a permanent committee for recruitment is employing a summer recruitment program as a major effort in attracting students.

TABLE II

Student Qualifications for Admission

	<i>1981</i>	<i>1982</i>
GPA	3.30	3.24
GRE	1174	1206

TABLE III

Summer Undergraduate Research Program

<i>Undergraduate Institution</i>	<i>No.</i>	<i>MUSC Department</i>	<i>No.</i>
Furman University	2	Otorhinolaryngology	1
Davidson College	1	Pharm. Science	1
Smith College	1	Ophthalmology	1
Brooklyn College	1	Biochemistry	2
College of Wooster	1	Marine Biomedicine	1
Wesleyan University	1	Immunology	1
Trinity College	1	V. A. Hospital	1
Middlebury College	1	Nuclear Medicine	1
Barnard College	1	Neurology	1
Lafayette College	1	Laboratory Medicine	1
University of Virginia	1	Medicine	1

Visiting Professors

The Basic Science Graduate School Seminar Committee was responsible for the appearance here of the following speakers: Dr. Robert P. Perry, The Institute for Cancer Research, Fox Chase, Pa.; The Drs. Stuart and Rosalind Kornfeld, Washington University School of Medicine; Dr. Robert M. Krug, Sloan Kettering Institute for Cancer Research; Dr. William J. Lennaz, Johns Hopkins University; Dr. Isidore Edelman, Columbia University; Dr. Lester Reed, University of Texas; and Dr. Anthony Cerami, Rockefeller University.

The College also helped the departments of Anatomy and Ophthalmology sponsor a lecture by Dr. David H. Hubel, Harvard University Medical School, a recent Nobel Prize winner.

Postdoctoral Fellowships

The College of Graduate Studies sponsored 18 postdoctoral trainees, each postdoctoral award accompanied by a requirement that extramural support for subsequent training must be sought. It is anticipated such a requirement will stimulate an increase in the number of extramurally funded postdoctoral positions at the Medical University.

TABLE IV

<i>Department</i>	<i>Number</i>
Anatomy	1
Pharmacology	1
Pathology	2
Neurology	2
Biochemistry	5
Medicine	1
Immunology	2
Marine Biomedical Research Program	1
Ophthalmology	1
Biophysical Dentistry	1
Lab Medicine	<u>1</u>
	18

Student Travel

The College provided travel support for 10 students to six national meetings where they presented scientific papers. Attendance at these meetings not only exposes the students to the critical environment of professional scientists but also helps to further the research image of the Medical University throughout the country.

Goals to Be Implemented

Among the goals of the Dean's Office are to increase the number of graduate students entering the program to approximately 40 per year; to work closely with the Director for Minority Affairs to increase minority enrollment; and to develop mechanisms to provide more clinically oriented research exposure for students who identify clinical investigation as a career choice. There will be a continuing effort to recruit postdoctoral trainees with clinical interests.

COLLEGE OF PHARMACY

The College held a yearlong celebration of its 100th Anniversary, starting with a banquet honoring Dr. A. F. Dodds on his retirement, continuing with a number of seminars and concluding with a special program in Myrtle Beach on May 15-16. The events served to revitalize alumni interest in the College and a series of programs is planned to build on this enthusiasm.

The College of Pharmacy was totally reorganized into three new departments during the academic year. These are the Department of Pharmacy Practice and Administration, Clinical and Institutional Phar-

macy, and Pharmaceutical Sciences. Because of budgetary restrictions efforts were made to fill only the position of Chairman for the Department of Pharmaceutical Sciences. With this new organization, faculty members having similar teaching and research interests are now aligned in the same department.

The Drug Interaction Data Base, for which royalties are received from the National Data Corporation, has continued to receive critical praise throughout the country. The maintenance of the data base is a joint project of the College and the Department of Family Medicine.

The Nutritional Support Residency was the first such program in the country to be visited for specialty accreditation.

The J. Hampton Hoch Museum was officially dedicated on July 5, 1981. It is a memorial to a long time faculty member and internationally known historian. The museum will serve as a means of educating pharmacy students in past practice and to acquaint the general public with differences in past and present pharmacy practice. The museum is open to the public upon request.

Student organizations had an especially busy year. The Student American Pharmaceutical Association hosted the District III regional meeting, only the second time in 20 years sessions have been held outside of Atlanta, Georgia. This organization continued its participation in local hypertension and diabetic clinics held in shopping malls in the greater Charleston area.

The Rho Chi Society continued to visit Charleston County high schools, upon request, presenting drug use and abuse programs. The society's members also provided free tutorial assistance in various academic subjects for fellow students.

Eighty-two students received unduplicated financial aid during the year. A total of \$53,575 was awarded in Health Professions Education Assistance Act Loans, \$26,120 in Basic Educational Opportunity Grants, \$3,000 in National Direct Student Loans, \$33,375 in work study projects, \$6,350 in Supplemental Educational Opportunity Grants, \$51,300 from the S. C. Guaranteed Loan Program, \$49,940 from the Out-of-State Guaranteed Loan Program, \$2,000 from the NARD Foundation, and \$19,729 in private loans or scholarships.

Fourteen faculty members had a total of 16 articles published in scientific or professional journals, including a monograph published by the Health Science Consortium, Chapel Hill, N. C., on the topic of Sun Screens. The sixth edition of "Laws, Rules, and Regulations Governing the Practice of Pharmacy in South Carolina" was prepared by a faculty member, and the LAL (Limulus Amebocyte Lysate) test methodology developed here, was published as an official pyrogen test method.

The faculty presented 97 seminars throughout the state and country on

all aspects of professional and scientific pharmacy. In addition, 31 local seminars were presented to civic and senior citizen groups on drug abuse, proper drug use, and poison control by seven members of the faculty. Seventeen papers were presented at National professional meetings of the American Society of Hospital Pharmacy, American Pharmaceutical Association, American Society for Parenteral and Enteral Nutrition, and the Poison and Drug Information Society.

Two faculty members coordinated a three-day workshop on LAL Test Methodology held for 17 representatives of pharmaceutical industries. Another member presented a series of lectures at colleges of pharmacy in Venezuela and Peru.

Mr. Steven Brown received the Golden Mortar and Pestle Award as the outstanding teacher in the College of Pharmacy for 1981-82. Dr. C. Wayne Weart received the Golden Oyster Award for outstanding clinical teaching in Family Medicine.

COLLEGE OF NURSING

The past year has been one of reassessment and innovation for the College of Nursing. The faculty was involved in task forces designed to facilitate the development of a Philosophy and the selection of a Conceptual Framework which will provide a structure for curricula. The Constitution and By-Laws for the College were developed.

The undergraduate faculty was organized so that each faculty member was assigned to one of the clinical departments: medical-surgical nursing, maternity nursing, psychiatric-mental health nursing, community health nursing or nursing of children. Faculty members also participated in teaching courses outside of their specialty areas.

Sylvia Whiting, Associate Professor, continued to serve as coordinator of the MUSC-Francis Marion College Bachelor of Science in Nursing (BSN) Satellite Program in Florence, S. C. She also served as the Acting Director of the Evenings and Weekends Program for Registered Nurses in the Charleston area. Presently the College is actively recruiting two full-time faculty members to fill these positions. In addition to these two offerings for registered nurses, there is an ongoing Satellite Program at Winthrop College in Rock Hill. The purpose of these three programs is to afford working registered nurses the opportunity of upgrading their theoretical knowledge and skills. The BSN degree is awarded.

The Graduate Program, which was instituted in 1978, graduated its first class in May, 1982. Eight students in Maternal-Newborn Nursing and Nurse-Midwifery completed the requirements for the Master of Science in Nursing Degree. Appointed during the year were a chairperson of Medical-Surgical Nursing and an interim director of the Graduate Pro-

gram. Under the leadership of the Interim Director the graduate faculty conducted an extensive evaluation of the curriculum. Major curriculum revisions were undertaken in response to the present adverse economic conditions, and in an effort to facilitate part-time students' completion of the program.

The Dean's Lecture Series, initiated in 1979, continued to be successful in bringing to the College a distinguished nurse to interact with faculty, students and registered nurses in South Carolina and neighboring states. Sister Rosemary Donley, Professor and Dean, School of Nursing, Catholic University of America, Washington, D. C., delivered the lecture, "The National Political Scene and Nursing". The event was held at the Physicians Auditorium at the College of Charleston.

Faculty interchange occurred throughout the year to assure that the same curriculum offered at the College of Nursing is also offered at the Winthrop College Satellite in Rock Hill, Francis Marion College Satellite in Florence, and the Evenings and Weekends Program for registered nurses in Charleston. Faculty at the Satellites traveled to Charleston for most major faculty meetings, workshops and committee meetings and department chairpersons visited and consulted with nurse faculty at Winthrop.

This summer, 28 students are taking Practicum in various areas of the State while two additional students are engaged in learning experiences at the National Cancer Institute. Of those taking Practicum (clinical practice) outside of Charleston, seven are located at Greenville General Hospital, seven at Self Memorial Hospital in Greenwood, seven at Conway Memorial Hospital and seven at McLeod Regional Medical Center in Florence. Faculty for students in these four locations are respectively from Clemson University, Lander College, Coastal Carolina College, and McLeod Regional Medical Center. The hospitals involved help defray extra expenses for faculty salaries and students' living expenses.

Research efforts by the faculty continued to increase in quality and quantity. The Research Committee focused on creating a climate conducive to the development and implementation of research projects. This was accomplished by 1) committee members acting as consultants on research methodology; 2) assisting in identifying and developing individual and group research activities; and 3) presenting three seminar offerings. These three presentations were: 1) application of research findings on compliance to various clinical settings; 2) use of computers in nursing research; and 3) presentations by four nurse researchers on projects involving methodology, findings, and the complications of findings as applied to clinical practice. The Research Newsletter, *Search*, continued semi-annual publication.

Clinical services provided by the Nurse-Midwifery faculty and staff included 7,983 antepartal visits, the delivery of 633 babies and the care of many mothers who were transferred to medical management during labor and delivery for a variety of reasons. Many patients followed for care during the prenatal and intrapartal phase were seen for the postpartum and family planning evaluation. The faculty and staff also provided support and assistance to medical students in both prenatal and intrapartal clinical areas. The adolescent Obstetrical Service continued to be coordinated by a faculty member. Multidisciplinary team conferences were held every other week and nurse-midwifery conferences at the end of clinic sessions. Coordination of the Nurse-Midwifery Program with State representatives from Improved Pregnancy Outcome and Maternity Care continues.

Of the 59 registered nurses enrolled in the BSN Program, 33 were in the Winthrop College Satellite Program, and 26 at the College of Nursing in Charleston. An additional 13 registered nurses were enrolled in spring semester, five of them at the Francis Marion Satellite and eight in the Evenings and Weekends Program in Charleston. These are the first students in these newly developed programs.

Of the 37 students enrolled in the graduate program, 23 were studying part-time and 14 were studying full-time. An additional five students were on leave of absence.

The Graduate Program is currently in a transition period. During 1981-82, a total of 32 courses were offered in the College of Nursing. Eighteen students were enrolled in the Graduate Program and all are expected to graduate by December, 1982.

In addition to offering the required courses for enrolled students to complete the prescribed curriculum for graduation, the faculty is planning the implementation of a revised program for Fall, 1982. Major changes include a decrease in semester hours from 49 to 37 and the deletion of minors in nursing education and nursing administration.

Students will be admitted into the Medical-Surgical Nursing major. The availability of funding for faculty positions and the availability of qualified faculty will determine whether the College of Nursing will admit students into other clinical majors.

The College of Nursing continued to achieve the highest percentage of graduates passing the State Board Examination for Nursing of any baccalaureate nursing program in the state. Also, all 10 students who took the National American College of Nurse-Midwives Certification Examination passed. Of these, seven were enrolled in the master's program, and three were certificate students.

Due to lack of funds, the College of Nursing discontinued its own formal continuing education program and worked through the Univer-

sity's Division of Continuing Education. The College sponsored 16 programs with 360 participants. The programs accounted for 143.76 contact hours (C.E.U.'s).

COLLEGE OF ALLIED HEALTH SCIENCES

The College continued to serve South Carolina as its only publicly supported Upper Division unit providing baccalaureate and post-baccalaureate levels of education in the traditionally hospital and clinic-based allied health professions. Through its comprehensive range of Upper Division health training programs, mostly without State counterparts either public or private, it is now graduating enough professionals for the State's smaller communities to have reasonable success in attracting some of the personnel they need.

Baccalaureate programs in Dental Hygiene, Extracorporeal Circulation Technology, Medical Record Administration, Occupational Therapy, Physical Therapy, Radiologic Technology, and Respiratory Therapy attracted perhaps the largest qualified group of applicants from the various postsecondary units around the State in College history. These 2 year plus 2 year programs reaped the benefit of rather intensive statewide recruitment/publicity efforts carried out by the College for several years. While the College of Charleston, University of South Carolina in Columbia and Clemson remained the major sources of junior level student applicants, candidates from almost every college in the State applied as well.

Medical Technology continued to serve the State as the only such baccalaureate program combining both academic and laboratory/clinical phases on one campus. Its 2 year plus 2 year track provided students around the State the opportunity to complete their degree in four academic years while participating in an especially strong laboratory/clinical program. A unique 15-month track allowed advanced placement of students finishing baccalaureate degree curricula into the academic/laboratory/clinic courses necessary to qualify them as fully trained technologists yet in less time than required in the 2 year plus 2 year track. This 15-month track proved very attractive to the four-year colleges in South Carolina which in the past have resisted losing their students at the junior year level.

Post-baccalaureate programs in Anesthesia for Nurses, Physician's Assistant and Master in Health Sciences continued to provide training in fields that have no other publicly supported competitive units in South Carolina. The master's program expanded in students due to its increasing popularity as the only such allied health graduate unit in the State designed specifically for hospital/clinic-based professionals. The off-campus Piedmont area extension project saw completion of requirements

by its initial group of students and awarded M.H.S. degrees to 12 graduates in this Greenville/Spartanburg based program.

The small clinically based Orthoptic Preceptorship, utilizing the excellent Eye Institute facilities to the fullest, increased its admissions from one student a year to two for a total of four in this selective two-year program.

The Radiologic Technology Program, combining academic activities supportive of three special tracks in radiography, nuclear medicine and radiation therapy, continued to attract outside interest in how this rather diverse range of training is being conducted in an economical, cost-effective manner. It has been one of the first units in the radiation sciences field to consolidate activities in this manner, and consequently a number of colleges have sought information on its organization, curricula, and other facets of the program.

This year's 265 graduates of the various health programs continued to find positions in their respective health career fields with relative ease. It is estimated that approximately 80 percent of the graduates took positions within South Carolina. Position announcements that came to the College along with advertisements in major State newspapers indicated that a sizable pool of jobs continued to exist during the year and that graduates on an average had a choice of two to three offerings. For those willing to look at positions across the State, the employment opportunities approached 100 percent. National level competitiveness in attracting certain Upper Division graduates accounted for most of those who left South Carolina. Such programs as Physical Therapy, Occupational Therapy, Anesthesia for Nurses and Extracorporeal Circulation Technology had lower in-State retention rates averaging perhaps 50 to 60 percent due to this intensely competitive national job market.

College faculty remained active in professionally related extension type projects and activities during the reporting period. These efforts occurred on local, statewide and national levels. Included were 61 continuing education courses offered to practicing allied health personnel, mostly within the State. Faculty continued to improve their skills by participating in numerous educational offerings around the nation and mostly at their own expense. Several faculty members were recognized at local, state and national levels by election to office in a number of important professional organizations. Included were two individuals selected for president and president-elect of large national professional bodies.

The College's research efforts have continued to grow, primarily through activities of graduate students in the Master in Health Sciences Program. Some 25 graduate thesis projects were completed and reported on during the year.

To make better use of physical facilities, the College Dean's Office was relocated in new administrative quarters in the Clinic Building. This allowed the renovation of space in the Allied Health Building for the expanded Physical Therapy Program which is now quartered in an excellent educational setting. The move further consolidated Upper Division efforts into the Allied Health Building facilitating both core courses and student/program interrelations. In conjunction with the previously mentioned changes, the Master in Health Sciences Program was moved into the Allied Health Building as well. The placement of the graduate program into contiguous relationship with undergraduate programs stimulated general student interest and brought diverse small faculties together resulting in better understanding and cooperation. While a lack of adequate physical space remained a problem for the College, the various faculties utilized what they had quite effectively.

It was necessary during the year to begin the close-out of the Physician's Assistant Program. With the loss of Federal support provided over the past decade, it soon became apparent that the University was not in a position to assume the support of this Program in light of current State financial difficulties. As it is the only Physician's Assistant training effort in the State, the closing caused considerable professional concern within the practicing physician's assistant community. Hopefully, this has been partly alleviated by projecting the recruitment of baccalaureate level physician's assistants into our graduate program. This should help attract a small number of such professionals into the State in future years and at least replenish those lost through various attrition routes.

Basic professional options in the baccalaureate level Radiologic Technology and Respiratory Therapy Programs were deleted during the year. These two programs will, however, continue their baccalaureate options that matriculate qualified students who have completed their professional training at two-year levels and desire to advance themselves further. As the only such efforts in South Carolina, they are important to those students completing their curricula at the various two-year institutions throughout the State. These vital links articulate between lower division and upper division education thus insuring the integrity of the "education ladder" system.

Financially, the 1981-1982 fiscal year was a difficult one for the College. The three options that were closed were both educationally viable and without counterparts within the State, yet they fell victim to budgetary restrictions imposed by University and State. College faculty remind all parties that the student applicant list for entry into allied health programs has continued to increase, that graduates have had a multiplicity of job choices and that the health care system is increasingly dependent on the availability of well trained personnel. Closure of

established and unduplicated health education programs operating in a both academically sound and cost-effective manner seems counterproductive to State goals and needs.

UNIVERSITY STUDENT PROGRAMS

A continuing first priority with students is a student center/athletic facility of their own. The Student Center Building account in the Health Sciences Foundation now has over \$100,000 donated for this express purpose. The latest Student Center Committee report was completed in April and was accepted by the Board of Trustees at its May meeting. The Committee concluded that there was an urgent need for a student facility that would provide opportunities for students' recreational and social needs and urged the University to assign this project a high priority, determine the feasibility of private support and identify other sources of funding if necessary.

The University has assigned a high priority to the Student Center project which it is estimated, would cost about \$5 million by the time construction could begin. A feasibility study done for the Health Sciences Foundation suggested that the amount that could be raised from private sources for this project is in the range of \$500,000 to \$1,500,000 at the present time. The Health Sciences Foundation has established the Student Center as a high priority for fund-raising.

The new proposal for a student housing project was not funded by the federal government. Housing continues to be a problem for students because of its scarcity and expense in the area around the Medical University. Two-bedroom apartments of tolerable quality are renting for \$300-\$400 within walking or biking distance to the school. The rates are lower within easy commuting distance, but then students must add the expense of transportation plus the almost insurmountable problem of parking. On-street parking has been virtually eliminated in the area by City Ordinance providing for residential parking permits.

In addition to the Intramural Program, which continues to grow steadily, this year a team was entered in the City Soccer League and in a Benefit Volleyball Tournament and both teams brought home trophies. More than 500 students, plus faculty and house staff, are currently participating in the Intramural Program. The objective for 1982-83 is to increase participation of women students in the Intramural Program.

Providing cultural opportunities for students is considered an important function of the Student Programs Office. Lack of funding, wide diversity among the student body, and the heavy academic and irregular clinical schedules make operational success difficult to attain. During 1982-83, an attempt will be made to continue and expand the practice of

providing MUSC students with discounted tickets to performances of the Charleston Symphony Orchestra, the Charleston Concert Association and other local performing arts groups. This approach has proven to be substantially less expensive than presenting a cultural series under University auspices. Additionally, the local arts community responds more favorably to this support than to competition in this area. Student Programs will continue to schedule a few Chamber Concerts on campus, some during the noon hour and others in the evening in St. Luke's Chapel.

The Film Group presents a very successful Saturday Night Film Series consisting of American film classics, outstanding documentaries, and foreign films of artistic or critical note. Comprised of students, faculty and staff interested in Cinema, the Group offers films 48 Saturday nights a year. It is supported by donations, gate receipts and an allocation from the Student Government Association equal to one-half its annual budget.

An Alcohol Abuse Education Program, developed jointly by faculty from the departments of Psychiatry, Family Medicine and University Student Programs, has received grant funding and will be administered by a group chaired by Dr. Sidney Jordan of Psychiatry.

The number of student counseling contacts has increased dramatically over the past two years. It is impossible to determine at this stage whether it is due to staff cut-backs in other areas of the University or there is an actual increase in the numbers of students seeking counseling.

As the economy continues to have problems, student financial aid becomes more critical. This year was noted for its changes, threats of changes and delays. Federal funding of student aid programs was drastically reduced and regulations governing eligibility for federal aid programs became highly restrictive. Perhaps the most serious threat to medical and dental students was the attempt by the Administration in Washington to disqualify professional and graduate students from eligibility for Guaranteed Student Loans. Students at the Medical University currently receive over \$4.5 million a year in loans under Guaranteed Student Loan Programs, which include South Carolina Loan Corporation loans. The multiplicity of proposals in Congress as reported in the media gives credence to the notion that there is much "testing of the wind". Nonetheless, it is realistic to assume that student financial aid will continue to receive funding cuts and stricter eligibility criteria until the nation's economy gets stronger or the government changes its philosophy in this regard or both.

The proportion of Medical University students who use the Financial Aid Office is in excess of 80 percent. To date, it has been an extremely rare occurrence for a student to withdraw from MUSC because the necessary funds could not be found. Unless the University is able to raise private money to replace the lost federal dollars, this will undoubtedly change.

Where the Financial Aid Office has, in the past, attempted to meet 100 percent of the students' calculated need (based on standard budgets and federal criteria), next year the goal has realistically been set at 80 percent. At this level, most students will still be able to attend by either cutting expenses in some way or finding non-institutional sources of additional funding. In all probability a reduction of financial aid by this amount will affect student recruitment, especially in some of the undergraduate programs.

With most of the changes from Washington having a negative effect on students, one institutional change has had a very positive effect. Work has begun to place transactions of the Financial Aid Office on the University's central computer and the first computerized student award notices will come off this summer. Not only will this result in students receiving their award notices earlier, but will free the student aid officers of an immeasurable amount of manual paperwork and provide them with time that can be better spent in financial counseling and identifying additional sources of student scholarship and loan funds.

The Director of Financial Aid served again this year as consultant to and presented seminars for the Departments of Education and Health and Human Services.

UNIVERSITY REGISTRAR AND DIRECTOR OF ADMISSIONS

With the installation of additional computer capacity and continued software development, this office has been able to extend further its on-line capability to each college as well as student service areas. It now has the capability of offering a full admission package, on-line and batch, to each college on a separate and confidential basis. The same is true with enrolled students. Certain basic information is available to the colleges for their students on video display units. Each college has the capability to retrieve general student information, courses enrolled, individual grade averages by term, credit hours enrolled, class rolls from the student data base and active and inactive courses by department. Active courses display instructors, meeting days, times and locations, credit hours, and maximum class size.

Access to this information is restricted on a need-to-know basis. Update capability continues to be the responsibility of this office, with the exception of certain admission information. Each college is restricted to its students and applicants while service areas have access to the students of all colleges and certain applicants.

A new batch and on-line system was developed for the Division of Continuing Education. Similar in design to the Student/Course data base used in the Student Information System, the Continuing Education

system has the capability to produce transcripts and credit letters for participants in conferences, grand rounds, case conferences, and journal clubs. All the requirements of state and national accreditation agencies are met by this system.

With the increase in computer services to the colleges, the demand for additional information has not relieved this office of the need for additional personnel. In addition, the lack of on-line terminals in this office, the colleges and the service areas continues to hamper efficiency at a time when this office is making every effort to assist the entire University in better and more efficient decision making.

Microfilming of academic records continues to be a major project. The use of microfilmed records, however, has been curtailed by the breakdown of the only microfilm reader/printer and the inability to procure a reliable replacement. Currently, the source document has to be retrieved from storage if a copy of a microfilmed document is needed.

Evaluation of teaching space is a continuing project. Additional studies are needed, especially in view of the changes in the Medicine curriculum. Preliminary evaluation by this office indicates a need for a multi-type (general classroom) building to support the entire University.

DEGREES AND/OR CERTIFICATES CONFERRED

1981-82

House Staff	
Certificate	
Residents — Medicine	123
Residents — Dental Medicine	13
Interns — Medicine	37
TOTAL	173
Graduate Studies	
Doctor of Philosophy	18
Master of Science	6
TOTAL	24
Medicine	
Doctor of Medicine	148
Dental Medicine	
Doctor of Dental Medicine	49
Pharmacy	
Doctor of Pharmacy	11
Bachelor of Science	53
TOTAL	64
Nursing	
Master of Science in Nursing	8
Bachelor of Science in Nursing	98
Nurse Midwifery Certificate	2
TOTAL	108
Allied Health Sciences	
Master in Health Sciences	25
Postbaccalaureate Certificate	
Anesthesia for Nurses	10
Cytotechnology	3
Physician's Assistant	12
TOTAL	25
Bachelor of Science	
Cytotechnology	8
Dental Hygiene	12
Extracorporeal Circulation Technology	6
Medical Record Administration	16
Medical Technology	19
Occupational Therapy	17
Physical Therapy	24
Radiologic Technology	10

Respiratory Therapy	7
TOTAL	119
MUSC/Trident Technical College Programs***	
Associate Degree	
Dental Assisting*	18
Dental Laboratory Technology**	6
Histotechnology*	1
Medical Laboratory Technology*	4
Ophthalmic Technician*	4
Radiologic Technology*	13
Respiratory Therapy*	13
TOTAL	59
Certificate	
Histologic Technique**	4
Practical Nursing**	33
TOTAL	37
Total Allied Health Sciences	265
TOTAL UNIVERSITY GRADUATES	831

* Associate in Health Sciences Degree awarded by Trident Technical College.

** Diploma awarded by Trident Technical College.

*** Certificate awarded by Medical University.

UNIVERSITY ENROLLMENT **1981-82**

College of Graduate Studies

Master of Science	22
Visiting Graduate Students	3
Doctor of Philosophy	<u>75</u>
TOTAL	100

College of Medicine

First Year	168
Second Year	157
Third Year	159
Fourth Year	<u>154</u>
TOTAL	638

College of Dental Medicine

First Year	55
Second Year	58
Third Year	61
Fourth Year	<u>49</u>
TOTAL	223

College of Pharmacy

Baccalaureate Program	
Third Year	39
Fourth Year	38
Fifth Year	<u>54</u>
TOTAL	131

Doctor of Pharmacy (Pharm.D.)

Fifth Year	15
Sixth Year	<u>11</u>
	26
TOTAL — College of Pharmacy	157

College of Nursing

Master of Science in Nursing	<u>37</u>
TOTAL — Master of Science in Nursing	37
Baccalaureate Program	
Second Year	78

Third Year	105
Fourth Year	<u>102</u>
TOTAL — Baccalaureate	285
Nurse Midwifery (Certificate Program)	2
(14 Additional Nurse Midwifery are in M.S.N.)	
TOTAL — College of Nursing	<u>324</u>

College of Allied Health Sciences

Master in Health Sciences	59
Special Students — Master in Health Sciences	<u>11</u>
TOTAL — Master in Health Sciences	70
Postbaccalaureate Certificate Programs	53
Baccalaureate Programs	267
Special Student — Baccalaureate	<u>3</u>
TOTAL	323
Joint Programs with Trident Technical College	
Associate Degree	179
Certificate Programs	<u>61</u>
TOTAL	240
TOTAL — College of Allied Health Sciences	633
Unclassified	43
TOTAL ENROLLMENT	<u>2,118</u>

Post Doctoral Fellows, Residents and Interns

Post Doctoral Fellows	40
House Staff (MUSC)	
Interns — Medicine	31
Residents — Medicine	343
Residents — Dental Medicine	<u>22</u>
TOTAL — House Staff	396
Residents — Pharmacy	<u>6</u>
TOTAL — MUSC Interns and Residents	402
S. C. Statewide Family Practice Residency System	
Anderson	26
Charleston*	44
Columbia	28
Florence (New 1980)	11
Greenville	27
Greenwood (New 1980)	<u>8</u>

* (Included in MUSC House Staff — 44).

Spartanburg	35
TOTAL — Family Practice	179
S. C. Consortium Hospital Interns and Residents	
Columbia	91
Greenville	75
Spartanburg	20
TOTAL S. C. Consortium Hospitals	186
TOTAL — S. C. Statewide Family Practice Residency	
System and Consortium Programs	
(Less MUSC Family Medicine)	277
ON CAMPUS — Interns and Residents	402
OFF CAMPUS — Interns and Residents	321
TOTAL	723

Enrollment Summary

Post-Doctoral Fellows	40
MUSC House Staff (includes Family Medicine)	402
S. C. Statewide Family Practice System	135
Consortium Hospital Interns and Residents	186

MUSC Colleges

Graduate Studies	100
Medicine	638
Dental Medicine	223
Pharmacy	157
Nursing	324
Allied Health Sciences	393
Joint Allied Health Sciences Programs with	
Trident Technical College	240
Unclassified	43
GRAND TOTAL	2,881

RESEARCH AND SPONSORED PROGRAMS

Despite the severity of the nation's economic problems, external funding in direct costs for research and sponsored programs climbed by approximately \$250,000 over the previous year to a new high of \$10,096,881. In addition, these funds generated approximately \$1.5 million of indirect funds for the University.

Of increasing significance was the percentage of funding going directly to research, from 59 percent in 1979 to 86 percent of this year's total, a manifestation of the strong base of research on this campus.

While the federal government provides the great majority of support for research and sponsored programs, data over the past four years show that funding from non-federal sources has nearly tripled, the most dramatic rise being exhibited by the corporate sector. This support has grown almost fivefold in four years to represent currently more than 12 percent of the total direct support from extramural funding.

An important indicator of research productivity, in addition to the number of grants and principal investigators, is that of scientific publications. During the past year, the number of published journal articles exceeded 420 and there were 152 abstracts and 143 other publications. It represented a 50 percent increase over the past four years. From criteria established by the Journal Citation Reports of the Sciences Citation Index, it was determined that 54 percent of the journal articles were published in journals judged to be "important" to biomedical research.

The University Research Committee, primarily concerned with the development of new research programs, met six times, reviewed 172 applications and made 105 awards. A total of \$643,566 was awarded to these projects. What is particularly striking is that more than 50 percent of these funded projects subsequently obtained extramural support for the research during the past three years. Additionally, the extramural funding was five times that made available through the committee. This form of institutional support for research development has proved to be a sound investment.

The awards, made on the basis of scientific merit, were presented to 22 different departments on campus and were used primarily for equipment and supplies to initiate new research projects. Also scientific critiques were provided to all applicants to assist them in the preparation of subsequent research programs and applications.

Clinical investigation experienced continued growth. The number of active projects involving human subjects exceeded 650 this year, double the number of five years ago.

The Medical University, like other major academic health centers, has been subjected to reductions in manpower training support. The most significant decrease has been the result of Federal phasing out of support

for the Area Health Education Center program. Further declines in Federal support are expected as no new plans for manpower programs are in the Federal health priorities. To preserve an appropriate level of support, the University must turn to private foundations and corporations.

The University operated under two new procedures during the year. The State Budget and Control Board established a new policy by which an agency of State government may contract directly with individuals for professional services. The major impact of this new policy upon the University is to allow for the contracting of personnel, classified or faculty, to work on extramurally funded projects. The hiring of individuals through this new Special Contract Services procedure will be coordinated through the Department of Personnel Services.

The second change involves a new Indirect Cost Plan. Under the plan, indirect cost funds are available for the purposes for which they were recovered. The unit which generated the funds receives a portion of the indirect costs funds recovered. A second portion of the funds is used to support research on a University level, the funds administered by the University Research Committee and directed at major equipment purchases, new resources and limited renovations. In addition, partial support for the Library, the Grants Accounting Office and the Office of Research and Sponsored Programs is provided. In each case, these funds are used for general research support.

In January, the MUSC Library became a Patent Depository Library, the only such one in a health-related library. The patent collection, obtained with the support of the Medical University, the Health Sciences Foundation, the Drug Science Foundation, and several local industries, is located on the fourth floor of the Library and contains all U.S. Patents issued from 1975 to the present. The patents are available to MUSC faculty and the public for a small fee. Funds are now being sought to extend this collection prior to 1975, so that ultimately the most recent 20 years of all patents will be available.

In addition, a new Copyright Policy was approved by the Board of Trustees. This new Copyright Policy, along with the University's Patent policy, outlines the rights and interests of the investigators, sponsors and University, keeping a proper balance consistent with individual creativity, public interest and State statutes.

Staff members of this Office were involved in the development of a number of special projects. They included: (1) development of an application for the Robert Wood Johnson Foundation "Community Programs for Affordable Health Care" grants, (2) a "Habit of Health" prevention application to the W. K. Kellogg Foundation, (3) development of a comprehensive education support program for minority students both at

high school and college levels, (4) the investigation of external funding for the application of University expertise in the development and application of health care systems for international needs, and (5) postmarket surveillance of drugs used by non-hospitalized patients.

OFFICE OF EDUCATIONAL SERVICES

For the fifth consecutive year there was an increase in the number of test papers scored under the Student Examination Evaluation Program (SEEP). This service is provided on request to faculty members of all colleges and includes assistance in utilizing the information from the test report. More than 60,000 papers were scored this year.

A new version of Personalized Assessment of Course Effectiveness has been developed and will be available for general use in the fall semester of 1982. This system analyzes student response to instructional effectiveness.

Seminars and individual consultation were arranged for more than 100 faculty members in the program on faculty development in teaching, and additionally this office conducted statewide assessments of health educational programs involving 148 institutions and agencies in South Carolina. Assessments were made for pharmacy, pediatrics, nursing and allied health sciences.

The staff assisted the faculty in the development of 23 videotaped instructional units and several departments in organizing A-V instructional/training materials. There were 18 slide-tape and slide-monograph programs developed for three courses.

Division of Audiovisual Production

The Division continued to increase production, generating \$131,324 (surpassing its expected goal by \$11,324) despite the lack of income resulting from the loss of the Classroom Support Section. In addition, it generated \$32,416 in cash receipts for other services (exceeding the budgeted \$15,000 by \$17,416).

More modern and efficient equipment was purchased by the Medical Photography Section enabling it to improve speed and quality necessary to fill the increasing demand for production while operating with the same number of staff. This section increased production of color printing to drastically decrease dependency on commercial laboratory facilities, resulting in considerable savings in time and expenditures.

The Illustration and Design Section received Honorable Mention and Citation of Merit Awards for artwork submitted in local and national competitions. Although this section completed eight fewer projects than last year, billing increased by \$20,000, which can be attributed to the production of larger and more complex publications and exhibits.

LIBRARY AND LEARNING RESOURCE CENTER

The MUSC Library was instrumental in the formation of the Consortium of Southern Biomedical Libraries, founded in April of 1982. This consortium counts all 15 academic medical center libraries in Alabama, Florida, Georgia, Mississippi, South Carolina, and Tennessee among its members. The purposes of the Consortium are: to exchange information and share existing resources to mutual advantage; to participate in cooperative programs; and to strengthen existing resources and library services through joint application for private and government funds. The Consortium will be headquartered here during the period 1982-84.

The Library/Learning Resource staff reported 57 consultations with individuals and institutions primarily within South Carolina on various facets of library administration and operation. In November of 1981, the staff organized and served as hosts for a meeting on "Retrospective Conversion of Consortia." An ISI/BIOMED database demonstration was held for internists. The patent database, CASSIS, new to this library, was demonstrated to a group from local industry. The reference staff answered 4,459 extensive and ready reference questions, a 21.4 percent increase over last year. A total of 6,915 computerized searches was run on NLM, BRS, DIALOG, and CASSIS data bases. The number of SDILINE searches increased 47.6 percent.

The Interlibrary Loan and Extension Offices produced 15,436 transactions, with the Interlibrary Loan Office providing 11,049 monographs, journals, or photocopies of journal articles to users throughout South Carolina and the Southeastern Region, an increase of 3.9 per cent. The Extension Office provided 2,610 documents to South Carolina users and ran 587 MEDLINE searches.

State appropriations totaled \$916,189 (\$819,249 Library; \$96,940 Learning Resource Center). Despite an additional appropriation of \$100,000 from grant generated indirect cost monies, it was necessary to drop 122 current journal titles. It is desirable that future state appropriations more realistically reflect the costs of building a research level collection and that any soft monies available be used for "one-time" purchases rather than for basic collection support.

LIBRARY & LEARNING RESOURCE CENTER STATISTICS 1981-1982

Holdings:

Total Holdings*, June 30, 1981	141,361
Added, 1981-82	6,324
Withdrawn, 1981-82	1,601
Total Holdings*, June 30, 1982	146,085
Periodicals & Serials Currently Received (2183+556)	2,739

* Monographs, bound journals, audiovisual packages.

Number of Interlibrary Loan Transactions:

Incoming	1,777
Outgoing	13,659
Total	15,436

Circulation:

Journals	35,636
Monographs	28,909
Audiovisuals	17,739
Total	82,304

Budget:

State Appropriations	
Library	\$819,249
LRC	96,940
Indirect Cost Monies	100,000
Total	\$1,016,189

WARING HISTORICAL LIBRARY

The Subject Catalogue of the History of Medicine and Related Sciences of the Wellcome Institute for the History of Medicine, an 18-volume set published in 1980, was added to the collection this year and has already proved its worth as important reference material. Waring Library Society funds paid for its purchase as well as that of eight other books and pamphlets, four pertaining to the history of medicine in South Carolina and the other four old journals or volumes to complete a set. The German translation of Lionel Chalmers' *Essay on Fevers*, published in Riga in 1773, was a very rare find and a welcome addition to the South Carolina collection.

The Waring Library was the recipient of 65 books as gifts during the year, mostly books of the 19th century. Other gifts of note were a small 19th century medicine chest with accessories, a diploma of a South

Carolina physician from Jefferson Medical College in Philadelphia, a cachet making apparatus used before gelatin capsules became practical in 1875, and an early 20th century German made haemometer. A complete listing of the Waring Library's acquisitions and gifts is reported semi-annually in *Library Notes*. The Macaulay Museum of Dental History received a handsome walnut case of instruments with ivory and mother-of-pearl handles, a dental stool, and a primitive folding dental chair.

Some subjects of research interest this year were blood transfusion before the Civil War, attitudes toward suicide before 1860, and black physicians of the 19th century. The library, in cooperation with the photography department, provided material and photographs for the covers of the *Journal of the South Carolina Medical Association* during the year. The library is reporting its holdings for inclusion in the Eighteenth Century Short Title Catalogue of North America and the North American Imprints Program of the American Antiquarian Society, another project that will take over a year to complete.

The Waring Library Society completed its fourth year with a membership of 218, including some 40 student members. The Society participated with the College of Charleston and the South Carolina Historical Society in a conference in March of 1982 entitled "Intellectual Life in Antebellum Charleston", which was quite successful. The Society sponsored a special lecture in the history of medicine at that time and another lecture in May at its annual meeting. The Essay Contest in the History of the Health Sciences was endorsed by the Society for the third year.

The Waring Historical Library and the Macaulay Museum of Dental History were visited by most of the incoming freshmen of the Colleges on orientation tours and by other small groups throughout the year.

The preservation project of removing the damaging tape which had been placed on the spines of the rare books many years ago and placing the books in acid-free folders has been almost completed. These books will be candidates in the future for expert hand rebinding. With the use of Waring Library Society funds, 58 books were rebound or rebacked. It is planned to continue this all important work for many years.

The Waring Historical Library Annex continues to move ahead according to plan including the recataloging of the entire special collection.

STUDENT-EMPLOYEE HEALTH SERVICES

The Occupational Safety and Health Administration (OSHA) examination program was initiated in June of 1981. Individual notices were placed in all Medical University employees' paychecks to encourage good compliance. Health Services has now completed over 700 OSHA physicals, that number representing half the estimated employees involved with chemicals at the Medical University. These examinations are done at no cost to the individual employee or department.

Rubella testing underwent expansion to include not only female employees of childbearing age working in child care areas, but all new employees under the age of 50. The tests are done on all pre-employment applicants and immunizations are given to those with no immunity, regardless of the work area. Employees refusing immunization have that fact documented in their medical records. The Infectious Disease Committee is currently considering a recommendation to immunize all present Medical University employees for rubella.

The annual TB skin test and/or chest x-ray program has been reinstated. A system of annual notification of employees has been established to adhere to the requirements of the State Department of Health and Environmental Control.

For the first time, Health Services administered rabies vaccine to four Laboratory Animal Medicine employees. The Human Diploid Cell Vaccine cost the Health Services \$750. Under consideration is the immunization of approximately 1,000 Medical University employees with the new hepatitis vaccine at the cost of \$100 per employee. A source of funding must be identified to defray this cost.

Health Services averages approximately 200 blood contamination cases annually. All employees sustaining such injuries are now offered Immune Gamma Globulin (IGG). Hepatitis B Immune Globulin is given when indicated.

A total of 19,287 outpatient visits was recorded for the year, with students accounting for 7,765 visits; employees, 10,849; visitors, 16; and private OB-GYN and Primary Care Patients, 673. Overall, 1,828 visits were made after regular working hours, weekends, and holidays. Hospital residents saw 236 of this number. For this additional service provided by the medical residents, \$4,000 is contributed to an academic account to support their educational program. There were 389 admissions to the outpatient sick list for a total of 738 sick days for the students.

As for inpatients, there were eight student admissions for a total of 50 hospital days.

Of the 1,147 tuberculin skin tests done for students, 21 were initially positive and nine were converters. There were 1,402 tuberculin skin tests on employees.

There were 166 lost time accidents, with a loss of 1,168 days. There were 430 restricted days lost. The total number of visits for all service-related injuries was 1,933.

Health Services performed 1,016 pre-employment examinations and offered annual screenings to employees.

Premiums for Student Group Blue Cross-Blue Shield Health Insurance remained the same as last year: Single—\$135.44, married—\$484 (includes maternity), and family—\$673.76 (includes maternity). The Pilot Life Insurance Company Group Policy, with less comprehensive coverage, also remained the same: Single—\$91.25, married—\$228, and family—\$320. Maternity benefits may be obtained for an additional \$100.

MEDICAL UNIVERSITY HOSPITAL

A major milestone for the Medical University Hospital (MUH) was the receipt of a lengthened three-year accreditation from the Joint Commission for the Accreditation of Hospitals (JCAH). JCAH provides a voluntary evaluation of clinical and administrative functions of the hospital. A team consisting of a physician, a nurse, an administrator and a medical technologist spent three days analyzing and evaluating almost every department and function of the hospital.

During the year the hospital initiated a comprehensive productivity analysis. The process was initiated with the selection of some 100 top and mid-level management staff to participate in a two-day Operations Management Seminar. This seminar was designed to assist all management personnel in understanding the process of productivity improvement and to educate them as to systems for measuring, reporting and evaluating performance in their individual departments. Following this educational phase, Hospital Administration staff along with consultants from Touche Ross & Co. began undertaking a three-phase management operations analysis of 12 hospital departments. The three phases are: 1) identification of opportunities for improved productivity, 2) development of an implementation plan for each department, and 3) development of an on-going productivity monitoring system for the entire hospital.

Definitive steps were taken to prepare for the relocation of the outpatient clinics for general medicine, surgery, obstetrics-gynecology, and family planning to Charleston Memorial Hospital. Specific subspecialty clinics and statewide referrals will remain at MUH. This change will allow Medical University physicians to concentrate on specialty procedures at MUH, and the more general procedures will be provided through Charleston County.

Lifeline, a personal emergency response program, was initiated as a community service by the Medical University Hospital. Lifeline consists of three parts:

- 1) Electronic equipment located in the subscriber's home. A portable help button and home unit linked to the telephone are used to summon emergency assistance.
- 2) An emergency response center, located at the Medical University Hospital, where trained personnel provide 24-hour/day coverage.
- 3) Friends, neighbors or relatives of the subscriber who have agreed to respond to a call for help. They are dispatched immediately by a member of the Medical University Hospital's 1-West Treatment staff in the event of an emergency.

In order to protect both personnel and property, the hospital staff has taken initial steps for implementing a comprehensive security plan for the hospital. This plan includes the following elements:

- 1) improved employee identification badges,
- 2) reduced after-hours access to the hospital through controlled access,
- 3) video surveillance of specific exits,
- 4) improved external lighting, and
- 5) initiation of a package inspection program.

Since the completion and publication of the 1976 Hospital Master Plan, many significant projects have been completed or are undergoing stages of development.

The Master Plan, in conjunction with long range development strategies, should take the University Hospital well into the future. The time frame for completion, dependent on financing, is within the decade of the eighties.

The goals set to improve the quality of the hospital environment include planning for land use in the restricted campus area, the identification of renovation plans within the existing facility and recommendations to improve parking facilities.

Alternative concepts and strategies have been explored to respond to the major issues established by the planning goals. The recommendations address the whole range of issues, emphasizing the establishment of a framework from which decisions may be made in the future. The basic goals and principles should be considered firm with the recommendations somewhat variable in time frame, cost and content.

With the passage of time, need and priorities will change as will the 1976 Master Plan. Implementation of all recommendations will be prefaced by critical review to assure the appropriateness of priorities.

CURRENT STATUS OF DEVELOPMENT OF CLINICAL FACILITIES

- I. Projects Approved, Funded and in Process:
 - A. Relocation of Respiratory Therapy
 - B. Angiography Equipment
 - C. House Staff Call Rooms
 - D. Additional Labor Rooms
 - E. Security System
- II. Projects Approved and Funded, not yet in process:
 - A. Relocation of Burn Center
 - B. Relocation of Medical Intensive Care Unit
 - C. Relocation of Occupational Therapy
 - D. Relocation of Vascular Laboratory
 - E. Office for Pathology
 - F. Recovery Area for Delivery Suite
- III. Projects under Consideration:
 - A. Elevator Tower
 - B. Second Phase of Service Bridges
 - C. Relocation of Employee Health Services
 - D. Relocation of Cafeteria
 - E. Parking Garage
- IV. New Major Construction:
 - A. Children's Hospital — East Wing Addition
 - B. Psychiatric Hospital
- V. Strategies:
 - A. Indigent Outpatient Care (clinics)
 - B. Hospital Indigent Load
 - C. Clinical Relationships
 - 1. Charleston County Council
 - 2. Charleston Memorial Hospital
 - 3. Charleston County Substance Abuse Commission
 - 4. Child Abuse — Criminality Service
 - 5. Lifeline

Financially, the fiscal year was a positive one for the Medical University Hospital. Cash collections from generated operating revenue totaled \$58,593,923 and the state appropriation totaled \$15,396,259. The Hospital expenditure of \$74 million included \$1,233,859 for medical equipment.

**MEDICAL UNIVERSITY HOSPITAL
STATISTICAL SUMMARY
For the 12 months ending June 30, 1982**

Beds and Bassinets Available 524

Patient Days:

General Nursing Units 108,334
Special Care Units 7,847
Nursery 25,268

Total 141,449

Average Census 387.5

Average Census—Nursery 69.2

Average Length-of-Stay 7.0

Average Length-of-Stay—Nursery 5.5

Percent Occupancy 74.3

Patient Admissions 20,619

Clinic Visits:

MUH Clinic 82,810

Cancer Clinic 5,220

Cardiac Clinic 1,872

Family Medicine 23,900

Eye Clinic 7,508

Private Diagnostic Clinic 45,446

Primary Care Unit 8,226

Total 174,982

Surgical Procedures 8,319

Number of Deliveries 3,244

Laboratory Medicine Procedures 697,936

Anatomical Pathology Procedures 53,772

Diagnostic Radiology Procedures 93,325

Therapeutic Radiology Procedures 16,962

Nuclear Medicine Procedures 3,780

Physical Therapy Procedures 31,737

Meals Served:

Patient 365,370

Cafeteria 993,011

Total 1,358,381

Pounds of Laundry 1,265,246

Number of Employees 2,358

EXTENSION PROGRAMS

Since its beginning in 1972, the Extension Programs have developed into an effective statewide network of seven regional centers, each providing health manpower education and training opportunities for health professionals, while at the same time, addressing the specific health-related needs of the community.

Medical Education

A. Graduate Education

Medical education has historically been the emphasis of the Medical University Extension Programs. The Area Health Education Center (AHEC) System's original goal was to alleviate a physician shortage in the state. The physician shortage has been brought under control, but maldistribution remains an area of continuing concern.

Retention of practicing physicians is another goal. The availability of health manpower education through regional AHECs helps keep rural area physicians from being professionally isolated.

Graduate doctor and family practice activities have contributed to a markedly improved supply of primary care physicians in South Carolina. In 1972, when the program began, the state ranked 44th in the nation in the ratio of primary care physicians to population. Today South Carolina ranks 30th in the nation, evidence of the great progress which has been recorded in a mere decade.

This year, 322 residents were on site, excluding Charleston Family Practice, whereas only 69 residents were on site in 1973. It is estimated that more than 50 percent of these residents will remain to practice in South Carolina.

Residency programs at the regional AHEC sites integrate practice management conferences and seminars into their curricula. Realizing that traditional medical education does not prepare the young physician for the business side of the medical practice, the Extension Programs sponsor an annual practice management seminar for all residents in South Carolina. A nationally recognized consultant is brought in to conduct this seminar with time allotted for individual consultation.

B. Undergraduate Education

Clinical electives for medical students are offered at Greenville Hospital System, McLeod Regional Medical Center in Florence, Richland Memorial Hospital in Columbia, Self Memorial Hospital in Greenwood, Spartanburg General Hospital, Anderson Memorial Hospital, and Palmetto Family Health Care Center in Pacolet. Students who participated in the past say they welcomed the opportunity to formulate, initiate and follow through with a patient's treatment plan under faculty supervision.

They have commented on the increased professional confidence they acquired from the opportunities offered by the hospital facilities and regional AHEC or family practice personnel.

A total of 712 off-campus medical electives was taken at AHEC sites this year. Projected enrollment for 1982-83 stands at 143 students for 596 student weeks. An additional 48 student weeks will be taken by Psychiatry core students.

Dental Education

Each senior dental student at the College of Dental Medicine rotates away from campus for a total of six weeks. They are encouraged to choose three different sites, each for a two-week period. Students averaged seeing 10 patients per day (240 patients for their six-week rotation or a total of 12,960 patient encounters for the 54 members of the class of 1982).

To encourage students to utilize extramural sites, AHEC Extension Programs, through their regional offices, have secured housing for senior dental students in Beaufort, Columbia, and Rock Hill. Also, housing was made available in McCormick for students to use while attending extramural rotations in the McCormick Health Care Center. The availability of this housing allows students to take advantage of extramural experiences in areas of the state which may have previously been closed to them due to logistical barriers. A total of 77 rural communities served as dental sites.

Nursing Education

Among the significant projects in 1981 were the following: 1) Clinical rotations of nursing students to rural practicums for five weeks. Several rural and urban hospitals participated in this outreach effort with 18 senior nursing students participating last year. 2) Continuation of the Emergency Medicine Nurse Practitioner program jointly sponsored by the Midlands Area Health Education Center and the Emergency Medical System. The clinical training is provided at Richland Memorial Hospital. Last year there were eight participants. 3) The baccalaureate program at Winthrop College continues to provide nurses in the Catawba-Wateree area the opportunity to earn a Bachelor of Science in Nursing degree without relocating to another site. The BSRN program now has a class capacity of 30. 4) The Nursing Council worked cooperatively with the State Board of Nursing on the planning of a workshop for South Carolina nurses on Career/Educational Mobility. "B.S.N. for R.N.'s: A Key to Professional Growth" was offered at multiple sites throughout the State from October through May. 5) The statewide Nursing Council and the Regional Coordinators finalized a comprehensive five-year plan for nurse education efforts during 1981-1986.

Pharmacy Education

Clinical rotations of senior baccalaureate pharmacy students were taken at rural sites such as the Sea Island Comprehensive Health Care Corporation and the Johns Island Health Center. Pharmacy students rotating to these sites have the opportunity to become involved with the many health professionals and services provided to clinic visitors. Thirteen senior pharmacy students participated in one or more rotations to rural sites.

The School of Pharmacy at the University of South Carolina, in conjunction with the Spartanburg regional AHEC, instituted a hospital pharmacy rotation in the Spartanburg General Hospital. The College of Pharmacy at MUSC greatly expanded its baccalaureate level rotations in order to offer the experiences to as many students as possible.

Primary care clinical rotations for Doctor of Pharmacy candidates provided the opportunity to rotate through a series of model family practice centers throughout the state. This program has enabled the College of Pharmacy to become a leader in training family pharmacists. Last year six Pharm.D. candidates participated in 11 rotations to statewide family practice centers.

The Doctor of Pharmacy family practice rotations were expanded to accommodate an ever increasing student demand. The Cowpens branch of the Palmetto Family Health Care Corporation has been identified for both BS (Pharmacy) and Pharm.D. training. These are in rural, underserved areas in Powdersville and Lewisville.

Allied Health

The following developments occurred during the year:

The College of Allied Health Sciences at MUSC initiated a masters degree program at Spartanburg AHEC, with about 30 candidates participating.

Dietetic traineeship programs in Greenville and Columbia prepared dietitians to function under standards established by the American Dietetic Association.

Utilizing the statewide network of clinical faculty and facilities, clinical rotations of allied health students were offered for colleges, universities, technical schools and vocational training schools.

A five-year plan for a statewide allied health manpower education and training effort was finalized. The plan provides the framework for statewide and regional activities identified by major goals defined by the statewide Allied Health Council. Major goals include assistance in the adequate distribution of qualified allied health personnel through South Carolina's health care delivery system, the promotion of recruitment and retention of allied health professionals, and the promotion of clinical

rotations.

Additional undergraduate clinical courses are being supplied at Spartanburg, Greenville, Midlands, Pee Dee, and Upper Savannah. These rotations cover a wide variety of training areas: medical technology, radiologic technology, nuclear medicine technology, ultrasound, dietary, respiratory therapy, medical records, anesthesia and clinical pastoral services. Approximately 176 students are involved in these courses.

Minority Affairs

The Office of Minority Affairs continued its statewide efforts to upgrade health care delivery to minorities by minority practitioners in all areas of the health profession; to increase the applicant pool of qualified minorities at the Medical University in all professional schools and the graduate school; and to enhance the academic performance of minorities matriculating at the Medical University. These goals were approached through student development and recruitment, counseling, placement and retention strategies.

Its staff participated in some 30 health career fairs. Information on health care opportunities as well as on entrance requirements and general academic preparatory measures was presented to approximately 5,000 high school and college students collectively and 1,000 students on a one-to-one basis throughout South Carolina.

In conjunction with staff efforts, the three minority student organizations (Minority Student Union, Student National Medical Association and Student National Dental Association) provided recruitment assistance through their high school career day projects on drug abuse and contraception.

The Minority Affairs' Pre-Health Council, composed of representatives from the six predominantly black accredited institutions in South Carolina, provided positive counseling support to students at their respective campuses and identified qualified Summer Health Careers Program and Medical University applicants.

Along the same lines, the Library Consortium, an offshoot of the Pre-Health Council, was successful in equipping each Pre-Health Council school library with the Dean Vaughn Learning System of medical terminology. The system has been found to increase memory retention of medical terms by 93 percent.

The Minorities Program has helped bring about some notable changes as illustrated by these comparisons with 1976: In 1976, there were 100 minority students at the Medical University while today there are 137. The attrition rate of 50-55 percent among minority students at the Medical University has fallen to 5 percent or less. The number of black physicians in South Carolina has risen from 37 to 101; black dentists from

39 to 46; black registered nurses from 625 to 719; no black optometrists to four; no black physical therapists to six; one black dental hygienist to three.

In other comparisons, there has been a 95 percent increase in black physicians between 1972 and 1982, and the number of black residents has increased from one in 1974 to 15 in 1981.

DIVISION OF CONTINUING EDUCATION

The Division of Continuing Education, through both the Health Communications Network and the Conference Section, maintained on-going educational support to the State's health professions as well as instructional support to the various departments and colleges of the Medical University of South Carolina.

HEALTH COMMUNICATIONS NETWORK

Although Network objectives are addressed mainly through the development of instructionally designed videotapes, there was an increased emphasis on live interactive television conferencing. This expanded interest is primarily due to the cost-saving potential of the Network's interactive communications capability.

The most successful utilization of this unique video conferencing system and the highlight of this year's programming activities was the presentation of a live three-day accredited seminar entitled, "Next Steps in Implementing Quality Appraisal/Action Plans in Hospitals." The workshop, broadcast to the Network's 30 member institutions, was conducted by Dr. Richard E. Thompson, a nationally recognized authority on this timely subject. Two hundred and eighty-six health professionals participated in the conference, earning continuing education credit while remaining at their own institutions. The average cost per person was \$30.10. To attend an equivalent seminar in Columbia, S. C., the average cost per person would be \$310.68, and for the same group to attend a seminar in Atlanta, Ga., the cost per person would be \$655.98.

Other Programs taking advantage of the system's cost-saving potential included:

"Parent/Child Interaction Training," a workshop teaching participants a highly specific set of procedures for training parents of young behavior-problem children, November 1981.

"Rape: The Aftermath," a live panel discussion focusing on the social, medical and physical aftermath of the rape experience for the victim, February 1982.

"Patient Rights in the Community," a live three-hour video conference for community mental health employees developed in association with the S. C. Department of Mental Health, April 1982.

"Master in Health Sciences 691 Seminar" teleconferences, a 15-hour graduate credit course televised live from the Castle Pinckney classroom to audiences located in Rock Hill, Columbia, Spartanburg and Greenville, January, February, March and April, 1982.

"Management of Gastric Dilatation and Volvulus in a Dog" and "Management of Diarrhea," the first televised continuing education programs for the State's veterinarians. Both programs were produced in cooperation with the University of Georgia College of Veterinary Medicine and Greenville General Hospital, January and April 1982.

Attendance at the Health Communications Network grand rounds in OB/GYN, Family Medicine, Psychiatry, and Nursing increased from 2,700 to 4,034 in FY 81/82. Two-way televised dental conferences between Richland Memorial Hospital in Columbia and MUSC were presented twice monthly and were edited and produced in appropriate format for monthly broadcasts on open circuit public television.

For the past 10 years, the Health Communications Network has pioneered the development and utilization of video talkback communications systems, emerging as a national model in health education telecommunications. As a result, Network staff members are frequently invited to make presentations to national and international communications conferences. A paper entitled "Live Interactive Television: The Medical Grand Rounds" was recently presented at the International Conference on Teleconferencing in Madison, WI. Another presentation, to the Association for Educational Communications and Technology National Convention (AECT) in Dallas, Texas, was entitled "A University Model for Creative Media with Talented and Gifted Children."

The promotional value of the Network is demonstrated through its ability to effectively publicize University activities. The Network production entitled "Unringing a Bell" was awarded first place in the 1981 McEachern Awards competition conducted by the Academy of Hospital Public Relations. The program was designed to correct impressions left in the minds of medical staff members and employees in teaching hospitals around the State who read or heard incorrect news reports about the Government Accounting Office audit of the Medical University.

During the S. C. Medical Association's Annual Meeting, the television staff provided extensive public relations support services, including video recording of special topic interviews and press conferences. The conferences and interviews were later broadcast over the Health Communications Network facilities to upstate television broadcast stations.

The Network is actively involved with ETV's weekly public affairs program, OPENLINE, which promotes live televised interaction between medical and civic authorities in Charleston and Columbia and

television audiences throughout the State. Over 45 transmissions have been broadcast from the Health Communications Network studios.

A two-part program, "Cross Cultural Communications and Understanding", was designed to assist individuals in understanding their own feelings about interacting with people different from their own race, color, religion, national origin, sex, or age. The program emphasizes the fact that basic human characteristics are identical and offers opportunities to develop appropriate understanding which should enhance interpersonal and intergroup communication.

CONFERENCE SECTION

The Conference Section sponsors or co-sponsors medical education activities throughout South Carolina. Its program expenses are supported by department budgets, tuition fees, exhibit charges, and educational grants from pharmaceutical companies and medical supply houses. Accreditation of grand rounds, case conferences, and other departmental meetings is extended by the Division. Approximately 8,000 credit hours are processed for the MUSC faculty annually through the Conference Section.

Despite the sharp cutback in conference personnel, high quality Continuing Medical Education (CME) conference programs were innovatively maintained throughout the fiscal year. In cooperation with MUSC's Registrar's Office, the Conference Section maintains a computerized record-keeping system for CME credits, either as American Medical Association Award (AMA PRA) Category I for physicians or CEUs for other health professionals. Credit information is readily available to health professionals or for medical associations upon request.

One of the many conferences presented was the OB/GYN conference, "Spring Symposium: The Aging Ovary." This course presented indications, contraindications, and controversies involved in substitutional hormonal therapy of the climacteric female and other interesting concepts regarding this topic. Physicians and other health professionals from throughout the United States attended this CME program. In cooperation with the American College of Cardiology and the Cardiovascular Division of MUSC, the Conference Section, in October 1981, facilitated "Clinical Cardiology — Newer Trends in Diagnosis and Management". Advances in the development of diagnostic and therapeutic techniques as well as improvements of approaches in clinical cardiology were presented. For over a decade, the Division of Continuing Education has been devoted to educating health professionals and updating them with the latest medical advances in a cost-effective manner which promotes improved patient care and health of all South Carolinians.

SUMMARY OF ACTIVITIES

Workshops and Seminars Sponsored or Co-Sponsored	77
Contact Hours for Workshops/Seminars	805
Accredited Departmental Activities	40
Attendee Credit Hours for Departmental Activities	8,143
Programs Produced for Broadcast by HCN	129
Grand Rounds Interactive Broadcasts	32
Other Live Interactive Programs	116
Closed Circuit Broadcast Hours	1,200
Open Circuit Educational Television Broadcasts	52
(public health information)	
Educational Radio Broadcasts	52
(public health information)	
Videocassettes Requested	950
Audiocassettes Requested	225

UNIVERSITY FINANCES

The fiscal year was marked by change and improvements to Medical University financial operations.

In response to statewide forecasts of fiscal austerity for 1981-82, University officials developed a budget reduction plan. When the State imposed a 2.19 percent reduction in State appropriated funds in November, 1981, the University Administration implemented the budget reduction with a relatively low impact on university operations.

During the year, the State began full application of the Statewide Accounting and Reporting System. In compliance, many changes were made to the University Accounting System. A new revenue reporting system was developed, and the travel request and reimbursement system was completely redesigned to allow for better reporting to the State.

In an effort to improve the University cash flow, the federal letter of credit was converted to an electronic transfer system. Now, funds are electronically requested from the federal reserve and transmitted to the state treasurer on the day checks are sent out. The scope of this activity is approximately \$1 million per month.

In the continuing effort to increase efficiency and cut costs, several other major improvements were made. A massive amount of routine monthly journal entries was automated. The computer now computes the data and does the entries automatically. Progress was also made in automating the Student Financial Aid System, the Student Accounts Receivable System, and in placing the Payroll System Data base "on-line". The number of copies of computer reports received and distributed by Accounting was reviewed. As a result of the review, half the paper copies sent to the University Departments were eliminated.

Computer terminals were installed in several areas of Finance to provide immediate access to financial data and to help reduce paper costs. As evidence of the successful efforts of the Finance Division and in particular the Student Financial Aid Office, this institution had one of the lowest default rates on student loans in the country. One of the University's colleges actually had the lowest default rate for that type of college.

The annual volume of work processed continued its steady rise as shown in the following three-year comparison:

<i>Fiscal Year</i>	<i>Payroll</i>	<i>Accounts Payable</i>	<i>Total</i>
1979-80	\$69,216,483	\$65,389,641	\$134,606,124
1980-81	77,355,083	74,186,677	151,541,760
1981-82	80,634,226	75,309,350	155,943,576

Accounts payable pursued all available discounts, achieving a 98 percent return at a savings of \$143,313 to the University.

The University currently has 28 ongoing construction projects totaling approximately \$48,000,000. All financial activities which affect these projects are managed through the University's Office of Project Administration. The debt service accounts are a vital source of funds to finance renovations, construction and equipment purchases. With the use of these funds, the University is able to minimize the need to issue bonds while still satisfying many of the University's fixed asset requirements.

During the fiscal year, the General Assembly enacted the South Carolina Consolidated Procurement Code. This statute had significant impact on the University Procurement Office and all university departments in that methods of selecting vendors and awarding contracts were changed, audit and certification of procurement systems were mandated, supply management guidelines were issued, and assistance to minority businesses provided for.

After audit by State Procurement Auditors during January/February, 1982, University Procurement was certified June, 1982, to conduct the majority of purchases for the university. This certification provides for increased responsiveness to departmental needs by virtually eliminating the need to route purchase requests to Columbia.

Along with code-generated procedural changes, University Procurement also experienced significant changes in personnel. Despite the problems associated with changes, the Purchasing Office Staff was able to effect considerable cost saving purchases. A notable example was the contract award which led to an annual estimated savings of \$150,000 for intravenous solutions used in the hospital.

The Materials Office purchased a new inventory management computer software package which will aid in the effective control of the Central Stores inventory. The software can also be used to manage various inventories throughout the university.

To expedite departmental procurement of supplies and services, a Departmental Order procedure was designed and implemented. This provides departments with the ability to make the majority of their small purchases directly without going through Procurement.

Several workshops were conducted to acquaint university staff with the procurement code and other procedures.

ADMINISTRATIVE AFFAIRS

Because of adverse economic factors affecting the entire State system, emphasis has been placed in recent years upon the alteration and renovation of existing facilities to meet the needs of the University. In 1981-82 the Physical Plant Division administered a number of these large renovation projects. For example, as part of a continuing program to recondition the 30-year-old Hospital facility, service bridges were completed on the rear side of the Hospital; alteration of Operating Room 8, the installation of a graphic sign system for the Hospital and renovation of the 8-East Nursery were accomplished during the year and window replacement for energy conservation and safety purposes was begun. A portion of the old Quadrangle structure was renovated for use as a surgical pathology facility.

In November, alterations were completed which allow the University to make use of geothermal energy. Since the thermal unit went on line, approximately 848 MMPTU's of energy have been captured, representing savings of about \$3,375. A project to provide increased access for the handicapped in University facilities, as called for by federal regulations, was completed in January at a cost of \$624,000. The University's main thrust toward new construction centered on the East Wing-Children's Hospital Addition, a project which had been in an inactive phase for some time due to funding difficulties. Approval was received to proceed with the project and as of June 30, 1982, the design of the facility was 99.5 percent complete. Bids for the initial stage of construction should be completed by August of 1982.

During the year the Department of Personnel Services received 7,773 applications from persons seeking employment with the University and recorded 29,777 calls to Dial-A-Job, the pre-recorded telephone listing of job openings. Approximately 3,500 individuals were interviewed by the personnel staff during the reporting period, of whom 2,787 were referred to departments for consideration and 747 were hired.

The Medical University participated in 11 State-wide studies conducted by the State Personnel Division, including a study of nursing classifications, and, with the assistance of State Personnel, implemented an employment package for nursing personnel which should help the Medical University attract and retain the nursing staff critical to its operations. State Personnel also approved an on-call pay policy for employees required to work under emergency or unforeseen situations in direct-care patient areas. A centralized program to maintain faculty annual leave balances by computer was developed for implementation on July 1, 1982. The new State Deferred Compensation Plan was offered on campus and by the end of the fiscal year approximately 360 employees had enrolled in the program. The Annual Service Awards Ceremony was conducted by Personnel Services on April 14 and 270 employees and retirees were honored for ten or more years of service to the University.

Through special program planning and participation, the University took an active role in community leadership during the year. Job experience and information were provided to students through CETA, the Flight Program and the South Carolina Migrant and Seasonal Farmworkers Work Experience Program. Representatives of the University also were active in the Trident Work Education Council, which promotes the development of community resources through the collaborative efforts of educators, employees, workers, students and government.

The Department of Business Operations continued to oversee the major business and auxiliary functions of the University, including transportation, mail and telephone services, dormitory, bookstore and real property management, microfilm and records management services. Under the State Centrex system, the University utilized 2,056 administrative, patient, and dormitory main telephone lines, with 3,585 instruments in operation. During the reporting period the MEDAIR aircraft operations provided 507.9 hours of flying time, for a total of 79,885 miles, with 571 flights made in South Carolina and 21 flights out of the state. In addition to providing a time-efficient means of travel for University personnel to affiliated institutions around the state, MEDAIR was also instrumental in the rapid transporting of human organs, emergency dialysis equipment and transfer of emergency transfusions.

Mail Services processed approximately 1.3 million pieces of incoming mail during the year and handled from 2,000 to 2,500 pieces of campus mail per day. To aid in the efficiency of the Mail Services operations, a new Pitney-Bowes mailing machine interfaced with a 70-pound electronic scale was installed during the year. In an ongoing program for the storage and retention of vital records, the microfilm section of Business Operations filmed 4.4 million documents in 1981-82.

To enhance the safety and well-being of the University community, the Department of Public Safety held a series of crime/rape prevention programs for students and employees in conjunction with the City Police Department and published a new self-protection booklet entitled "Avoid Crisis Tactics (ACT)", which was distributed at the lectures. A number of new intrusion alarms were installed in high-risk areas and a time-lapse camera was obtained for surveillance work. Five public safety officers completed 10 weeks of basic police training at the South Carolina Criminal Justice Academy in 1981-82 and were certified.

Since the installation of the 3033N computer in April of 1981, there has been an impressive increase in the Computer Center's ability to meet the needs of University departments for computer support. Many improvements were made in the hospital and clinic computer support systems, including the development of a new Medicare log and a Medicaid log, a billing account analysis system, an outpatient admission/charge summary system and many other patient-related programs. A new on-line Student Information System was installed for use by the University's Registrar to provide data on student admissions, transcripts, student accounts receivable billing and alumni. A number of new programs was installed to meet demands in the financial and personnel management areas, such as a department order system to allow departments to process small purchase orders, a personnel applicant data base on-line system, and an on-line supplies, inventory and purchasing software package.

A total of 2,958 parking spaces in the University's parking system was administered by the Office of Parking Management. A major accomplishment was the relocation of reserved-space parkers in the garage to a new parking area on President Street so as to have the entire Parking Garage available for patients and visitors, resulting in a 47 percent increase in visitor parking. Despite careful management of the parking facilities available to the University, there remains a critical need for additional parking. Parking Management has for a number of years conducted a vanpooling and carpooling program in an effort to ease the demand for new parking spaces. In 1981-82 there were five commuter vans in operation, producing benefits of approximately 381,000 commuter miles saved, 17,700 gallons of fuel saved and 38 fewer required parking spaces. There was a 10 percent increase in the number of registered participants in the carpool program over the previous fiscal year, with the result that a total of 233 fewer parking spaces was required.

DEVELOPMENT AND ALUMNI RELATIONS

The Office of Development and Alumni Relations continued to solicit successfully private gifts from alumni, faculty, corporations, foundations and other friends of the Medical University. Additionally, the office handled the billing, collecting and record keeping functions associated with alumni dues for the six colleges and sponsored a number of alumni functions and services. During the year over one million dollars in private funds was generated through annual giving, a major gift program, two successful fund-raising concerts featuring Itzhak Perlman and Philippe Entremont, memorial giving, a class agent program, two direct mail solicitations, and interest earned on investments.

Because of a reduction in staff and operating budget, only one *Alumni Bulletin* was published. Plans call for two smaller issues to be printed during the coming year. The first comprehensive benefits package was created for Medical University alumni dues-payers. Benefits include six months free membership in the Wickliffe House, the Health Sciences Foundation's faculty-alumni facility located on campus, and lodging discounts at a local resort.

In fiscal year 1982-83, alumni services will be decentralized, with each college planning its own events through a college alumni committee. A single all-alumni weekend will be held in the Spring or Fall focused on events which are attractive to the alumni of all colleges.

Publications — Medical University Press

Cooperative printing efforts increased considerably with members of the Charleston Higher Education Consortium. Of particular note was the variety of publications completed for the South Carolina Sea Grant Consortium. As in the past, there was informal interinstitutional use of specialized equipment.

As part of an ongoing program to update equipment, covered by revenue generated by the plant, Medical University Press traded in its 13-year-old-Davidson Press for a 1250 L & W Offset Press to increase production. Also procured was a shrink-wrap system for packaging finished printing and a counting scale to insure accuracy in the number of forms being distributed. The major overhaul of the Heidelberg KORS Press, purchased in 1973, was completed.

Income of \$387,000 was realized during the year against an operating budget of \$365,000. Well over a million offset and fast copy impressions were recorded monthly. Among the publications completed during the year were the following:

Alcohol Learning Manual
Allied Health Sciences Recruitment
Booklet

Histology and Embryology Syllabus
House Staff Manual and Directory
Introduction to Nuclear Medicine

Area Health Education Center Annual Report	Medical Pharmacology Workbook
Behavioral Sciences Syllabus, Volumes I and II	Medical Terminology
Biochemistry Manual	Neuroanatomy Student Guide
Biometry Core Manual and Student Handbook	Notes for Medical and Graduate Students
Campus Telephone Directory	Nursing Fundamentals 207
Chart (biweekly newsletter)	Nursing Student Handbook
Commencement Programs and Certificates	Oral Diagnosis
Directory of Clinical Services	Pediatric Core Manual
Electrotherapy Syllabus	Pharmacology Syllabus 321 and 443-621
Essentials of Laboratory Medicine	Pharmacy Code
Family Medicine Residency Handbook	Physiology Study Guides
Film Series Calendar	Preclinical Crown and Bridge Manual
Five Year Plan Workbook	Reference Values and Specimen Collection
General Clinical Research Center Manual	Removable Partial Prosthodontics Course Outline
General Pathology Course Guide	Research Newsletter (monthly)
Hemotherapy Manual	Routine Blood Stain Manual
Hematology Lecture Syllabus	Surgery Annual Report
	University Student Directory
	Urinalysis Procedure Manual

PUBLIC RELATIONS

Because of limited resources, more emphasis was placed this year on the use of newspapers and broadcast media to build positive opinions and awareness about the Medical University's innovative or new programs in clinical service, examples of superior teaching and professional training of students from all over the state, and outstanding achievements in biomedical research.

Examples of activities publicized were:

- research and testing of drugs used for treatment in hepatitis, multiple sclerosis, and cardiac disorders
- new surgical treatment for epilepsy
- stories and features about graduates and medical residents placed in community newspapers
- television series on radiology
- use of biofeedback in treatment for headache
- MUSC's pesticide regional information service
- diagnosis using fingernails
- use of lasers in biochemistry research

Special projects included:

- new employee orientation slide program
- publicizing scientific papers at the annual meeting of the South Carolina Medical Association
- revision of speakers bureau catalog

- working with Hospital nursing department on selection of agency to plan nursing recruitment
- newsletter for Trustees sent to state legislators

A new campus newspaper, to be published every two weeks beginning in the Fall of 1982, required several months of planning.

A closed-circuit television report produced in the Public Relations Department in cooperation with the Health Communications Network won a MacEachern Award, a national recognition for excellence in hospital communications.

MARINE BIOMEDICAL RESEARCH PROGRAM

The objectives of the program, now completing its second year, are (1) employing cells, tissues, and whole organisms of marine species as models to answer basic questions of biomedical significance; (2) studying zoonotic diseases transmissible from marine organisms to humans; and (3) investigating pathologic conditions in economically important marine organisms. More than 20 formal publications during the reporting period reflected these objectives.

Although there are grounds for pessimism as to federal and outside funding, the Marine Biomedical Research Program remains optimistic. The principal reasons are that negotiations have been initiated with the World Health Organization to designate the program as a Collaborating Laboratory for Vector Control (Molluscicides), and a new National Science Foundation grant has been received to continue work on molluscan hemocyte surfaces. The grant is an indication of the confidence professional colleagues have in the program's ability to pioneer in this field.

New and on-going extramural research grants awarded during the year were:

Sea Grant, U. S. Department of Commerce (through the S. C. Sea Grant Consortium), "Use of Selected Copper Compounds in Bacterial Depuration of Oysters and Clams", \$17,600.

National Science Foundation, "Surface Recognition by Molluscan Phagocytes," \$33,200.

International Copper Research Foundation, "Use of Copper Compounds in Depuration of Virus in Shellfish," \$41,000.

National Marine Fisheries Service, "Effects of Polycyclic Aromatic Hydrocarbons on Phagocytosis and Intracellular Killing of Bacteria by Macrophages," \$2,620.

The cooperation of Medical University faculty in marine projects is being encouraged. During the year there was collaboration with members of the Department of Biochemistry and also with clinicians who are interested in clinically oriented marine and related problems such as marine wounds and parasitic diseases. An epidemiologic study of marine

wounds has led to a proposal submittal to the Sea Grant Program to continue the work. There has also been an effort in collaboration with members of the Department of Medicine, to enhance interest in tropical medicine possibly leading to the creation of a Division of Geographic Medicine. Interinstitutional cooperation also was encouraged. During the year the program hosted scientists from the University of South Carolina School of Medicine, Clemson University and the Belle Baruch Institute for Estuarine and Coastal Studies.

CHARLESTON HIGHER EDUCATION CONSORTIUM

Baptist College

The Citadel

College of Charleston

S. C. Marine Resources Division

Medical University of S. C.

Trident Technical College

With the support of the S. C. Commission on Higher Education and the General Assembly, the Charleston Higher Education Consortium (CHEC) was substantially strengthened during the year. Two principal developments were the hiring of the first full-time Executive Director, Dr. John M. Bevan, who assumed this position on January 1, 1982, and the development of a comprehensive five-year "Master Plan", which was approved by the Commission on Higher Education on June 3, 1982.

The Master Plan details strategies designed to realize the seven goals specified by the General Assembly and the Commission on Higher Education plus an eighth goal proposed by CHEC's Executive Committee. Following is a listing of the eight goals.

Goal #1: TO STRENGTHEN THE MEMBER INSTITUTIONS' CAPACITY TO MEET THE INCREASING NEED FOR GRADUATE LEVEL PROGRAMS IN THE AREA

During the year, Baptist College established an M.Ed. program in Middle School and the Consortium institutions (together with the University of South Carolina) pledged cooperation and assistance to S. C. State College in its plans to establish an Ed.D. program in Educational Administration. Preliminary discussions were also held on strengthening the Consortium's M.S. in Marine Biology Program under its new director, Dr. Thomas Cheng, particularly through expanding its curriculum and improving articulation with several doctoral programs at MUSC; redefining the MPA and MS in Marine Biology programs; and identifying the need to establish an M.S. in Computer Science Program.

Goal #2: TO FACILITATE THE DEVELOPMENT AND IMPLEMENTATION OF JOINT RESEARCH PROJECTS

Activities to be pursued include the compilation of an inventory of research equipment and the development of policies and relationships to encourage the shared use of this equipment; the promotion of increased research funding through the closer coordination of staffs and resources, and through fostering ties among researchers; and CHEC sabbatical or exchange programs. The CHEC libraries will continue efforts to preclude duplication in the purchase of expensive holdings and to facilitate accessibility to their collections by establishing a courier service (due to start in September, 1982).

Goal #3: TO ASSIST THE MEMBER INSTITUTIONS IN REALIZING THE POTENTIAL OF THE AREA'S POSTSECONDARY INSTITUTIONS TO CAPITALIZE ON THE UNIQUE BUSINESS, RESEARCH AND EDUCATIONAL RESOURCES OF THE LOWCOUNTRY REGION

The Consortium considered this goal sufficiently important to warrant the creation of a new staff position, the Associate Directorship for Education/Business Relations, which was filled by Ms. Ann C. Baker in January, 1982.

This goal will include activities designed to upgrade the area's foreign language competency as a means of attracting foreign industries into the region; to establish business and industrial sabbaticals and internships for CHEC faculty and staff; to establish a brokering arrangement between CHEC and the business/industrial community and to offer management and other courses under this arrangement; to increase computer literacy in the area; and to coordinate cultural events within the community. Another group of activities will be concerned with the needs of "adults-in-transition" and will involve continuing services (individual advising and group workshops) of the community component of the Consortium's Educational Opportunity Center program.

An important accomplishment was the planning and funding of a "Fair Break" program. The Fair Break Program is a critical component of the City Venture Project of the East Side of peninsular Charleston. The program will serve undereducated and underemployed individuals on the East Side and combine computer-based learning, job readiness preparation, and counseling services which focus on developing a positive self-concept and appropriate work attitudes leading to further education and training in postsecondary institutions and to full time unsubsidized employment.

A final activity under this goal was the Consortium's compilation of an Inventory of training resources (people, equipment, programs, and

printed materials) available in the region through industrial and educational organizations under a grant from the S. C. Title I-B (Community Service and Continuing Education) Program. The Inventory will be printed and distributed in Fall, 1982.

Goal #4: TO INCREASE COORDINATION AND ELIMINATE UNNECESSARY DUPLICATION AMONG PROGRAMS WHENEVER POSSIBLE, MOST PARTICULARLY IN THE AREAS OF CONTINUING EDUCATION AND HISTORICALLY "LOW ENROLLMENT" PROGRAMS AND COURSES

In February, 1982, 15 institutional representatives held a two-day retreat to lay plans under this goal. In the coordination of credit courses, the group agreed that the first major objective should be to integrate the planning, conduct, and publicizing of 1983 Summer School programs. The Summer Schools' cooperative effort will serve as a prototype for the integration of Evening College schedules. Plans for the non-credit area call for increased use of joint publicity as was carried out with the Charleston County School District's Community Education Program, which published and distributed Fall and Spring directories of programs and courses to 120,000 tricounty households. Additional objectives include the planning of joint offerings of non-credit courses in career-oriented areas such as computer programming, and the Consortium's identification of high-interest non-credit areas where it may initiate trial offerings such as courses in local history and culture and a "Great Authors" series.

Goal #5: TO INCREASE COORDINATION AND ELIMINATE UNNECESSARY DUPLICATION AMONG ADMINISTRATIVE AND SUPPORT SERVICES SUCH AS LIBRARIES, PURCHASING, COMPUTER SERVICES, AND STUDENT ACTIVITIES FACILITIES

Over the course of a number of meetings and discussions, the Consortium has targeted 10 areas for its initial work under this goal: computer facilities, motor pools, printing presses, security operations, phone services, infirmary and health care services, audiovisual support services, recreational facilities, mail services, and interlibrary courier service. To facilitate the work in these areas, a consultant from Massachusetts' Five Colleges consortium will make several visits over the coming year.

Goal #6: TO IMPROVE ARTICULATION AMONG THE MEMBER INSTITUTIONS WITH POLICIES AND PROCEDURES THAT FACILITATE THE TRANSFER AND CROSS-REGISTRATION OF STUDENTS FROM ONE INSTITUTION TO ANOTHER

Activities fall in three broad areas of articulation: 1) Articulation between secondary schools and the CHEC institutions, principally through the continuing work of the secondary schools component of the Consortium's Educational Opportunity Center Program and activities listed under goal #8. 2) Articulation among the CHEC institutions, through services provided by the Educational Opportunity Center's Transfer/Articulation component, through revision of CHEC's cross-registration policies, procedures and publications (accomplished during the Summer of 1982) and through expansion of the number of "3/2" undergraduate/graduate degree programs. 3) Articulation between the CHEC institutions and other S. C. colleges, especially as such opportunities are created by directives or recommendations of the Commission on Higher Education in the implementation of South Carolina's desegregation plan.

Goal #7: TO IMPROVE THE OPPORTUNITIES FOR JOINT FACULTY AND STAFF DEVELOPMENT THROUGH SUCH MEANS AS JOINTLY SPONSORED ENRICHMENT ACTIVITIES, FACULTY INTERCHANGES AND JOINT APPOINTMENTS

Significant activities this past year included: 1) The completion of the first year of a comprehensive student affairs staff development program funded by a two-year grant from the Fund for the Improvement of Postsecondary Education. The program consists of a series of residential workshops, pre-workshop consultations, post-workshop forums and a mini-grant program, all designed to foster the professional growth of project participants and to offer them pragmatic support as they seek to improve student services among CHEC institutions. This project has already begun to receive national attention, including an invitation to the project staff to present a keynote workshop at the Spring, 1983, conference of the National Student Personnel Association. 2) The Consortium's sponsorship of several faculty or staff oriented activities in such areas as foreign languages, the teaching of writing, and "medical humanities" and the institutions' increasing willingness to open single-sponsored events to participation by faculty and staff from the other institutions. 3) The compilation and local distribution of a Minority Faculty and Staff Recruitment Directory consisting of more than 200 curricula vitae of minority academics wishing to be considered for CHEC positions.

In addition, the coming year will see further work in the development of institutional and external resources for the funding of joint faculty and staff development projects and in the establishment of institutional policies and procedures to facilitate joint appointments.

Goal #8: TO STRENGTHEN TIES WITH THE AREA'S PUBLIC SCHOOL SYSTEMS, PARTICULARLY THE SECONDARY AND MIDDLE SCHOOLS

This goal was added to the list of mandated areas of activity at the request of the Consortium's Executive Committee. The first objective under this goal is to strengthen the Consortium's direct services to students. Over the past year, the main linkage between the Consortium and tricity public school students continued to be through CHEC's Educational Opportunity Center program. That program, under its new director, Ms. Beverly Rose, has been awarded a new \$200,000 grant by the U. S. Department of Education to fund its fourth year of operation. Since 1982/83 may be the last year that the federal government will fund EOC programs, however, this coming year will see the Consortium's attempt to find other sources of funding or other means to continue the kinds of advising and application assistance EOC has been providing students seeking postsecondary education. Other kinds of student-oriented activities the Consortium wishes to explore are the areas of computer literacy, foreign languages and the gifted and talented.

A second major objective is to strengthen the Consortium's relationships with school districts' faculty and staff development efforts. One such activity will be the Consortium's co-sponsorship with the Charleston County School District of a Writing Institute in the Summer of 1983. This project, which will be allied with the National Writing Project of the University of California at Berkeley, will include an intensive five-week summer program plus follow-up activities during the academic year designed to improve the skills of teachers from the elementary through the college levels in the teaching of writing. Additional areas of interest to the Consortium are teacher training in computer literacy, skills-building and enrichment opportunities for foreign language teachers, and the involvement of school district guidance staffs in CHEC staff development projects.

A third principal objective is to coordinate Consortium and school district offerings in computers and computer sciences, including degree and non-degree training in computer science and computer literacy for pre-college teachers.

